United States Patent [19]

Barish et al.

[11] **Patent Number: 4,728,210**

[45] **Date of Patent: Mar. 1, 1988**

[54] **PACKAGE AND APPLICATOR FOR SOLID PRODUCT**

[75] Inventors: **Robert A. Barish**, Trenton; **Frederick G. Searby**, Freehold, both of N.J.

[73] Assignee: **Carter-Wallace, Inc,**

[21] Appl. No.: **905,532**

[22] Filed: **Sep. 10, 1986**

[51] **Int. Cl.**[4] **A46B 5/02**

[52] **U.S. Cl.** **401/6**

[58] **Field of Search** 401/6; 132/88.5, 83

[56] **References Cited**

U.S. PATENT DOCUMENTS

445,701	2/1891	Lee .	
448,197	3/1891	Beutelspacher .	
562,033	6/1896	Rounds .	
1,027,208	5/1912	Manheim .	
1,255,985	2/1918	Chatfield .	
1,333,941	3/1920	Silver .	
1,406,699	2/1922	Stewart .	
1,498,470	6/1924	Mignon	132/83
1,534,871	4/1925	Roystone	132/83 R
1,537,591	5/1925	Dodson	132/83 R
1,557,608	10/1925	Perkins .	
1,689,787	10/1928	Kupferschmid .	
2,031,853	2/1936	Potts .	
2,132,746	10/1938	Meyer .	
2,138,873	12/1938	Meyer .	
2,198,880	4/1940	Meyer .	
2,215,480	9/1940	Sampson	132/83 R
2,234,634	3/1941	Ramsey et al. .	
2,283,988	5/1942	Heath .	
2,490,650	12/1949	Reckler	401/6
2,569,469	10/1951	Gersten et al. .	
2,704,598	3/1955	Casey .	
2,770,071	11/1956	Endres .	
2,800,673	7/1957	Lazisky	401/6
2,859,867	11/1958	Shotton .	
2,900,757	8/1959	Grimm, Jr. .	
2,928,537	3/1960	Stagner .	
2,963,147	12/1960	Stagner .	
3,019,548	2/1962	Nadler .	
3,100,363	8/1963	Staver .	
3,125,824	3/1964	Staver .	
3,149,188	9/1964	Schmitt .	
3,162,885	12/1964	Tanner .	
3,192,894	7/1965	Staver .	
3,204,601	9/1965	Staver .	
3,262,421	7/1966	Staver .	
3,286,686	11/1966	Staver .	
3,288,104	11/1966	Staver .	
3,288,105	11/1966	Staver .	
3,453,056	7/1969	Motsavage et al. .	
3,597,098	8/1971	Kellis	401/6
3,697,111	10/1972	Thompson .	
3,860,348	1/1975	Doyle .	
4,053,242	10/1977	Mast, Jr. .	
4,062,792	12/1977	McNabb .	
4,235,557	11/1980	Hayes .	
4,244,470	1/1981	Burnham .	
4,335,007	6/1982	Owens .	
4,459,058	7/1984	Bennett .	

OTHER PUBLICATIONS

Avon Pavi Elle Moisture Touch Body Conditioner, Jan. 1985.

Primary Examiner—Gregory E. McNeill
Attorney, Agent, or Firm—Elliot M. Olstein; Raymond J. Lillie

[57] **ABSTRACT**

A solid personal care product is packaged in a container having a cover and handle, with the personal care product being attached to a gripping plate on the cover for removal from the container with the cover. The gripping plate preferably includes a porous member which is impregnated with a portion of the solid product to firmly grip the solid product for removal with the cover.

14 Claims, 5 Drawing Figures

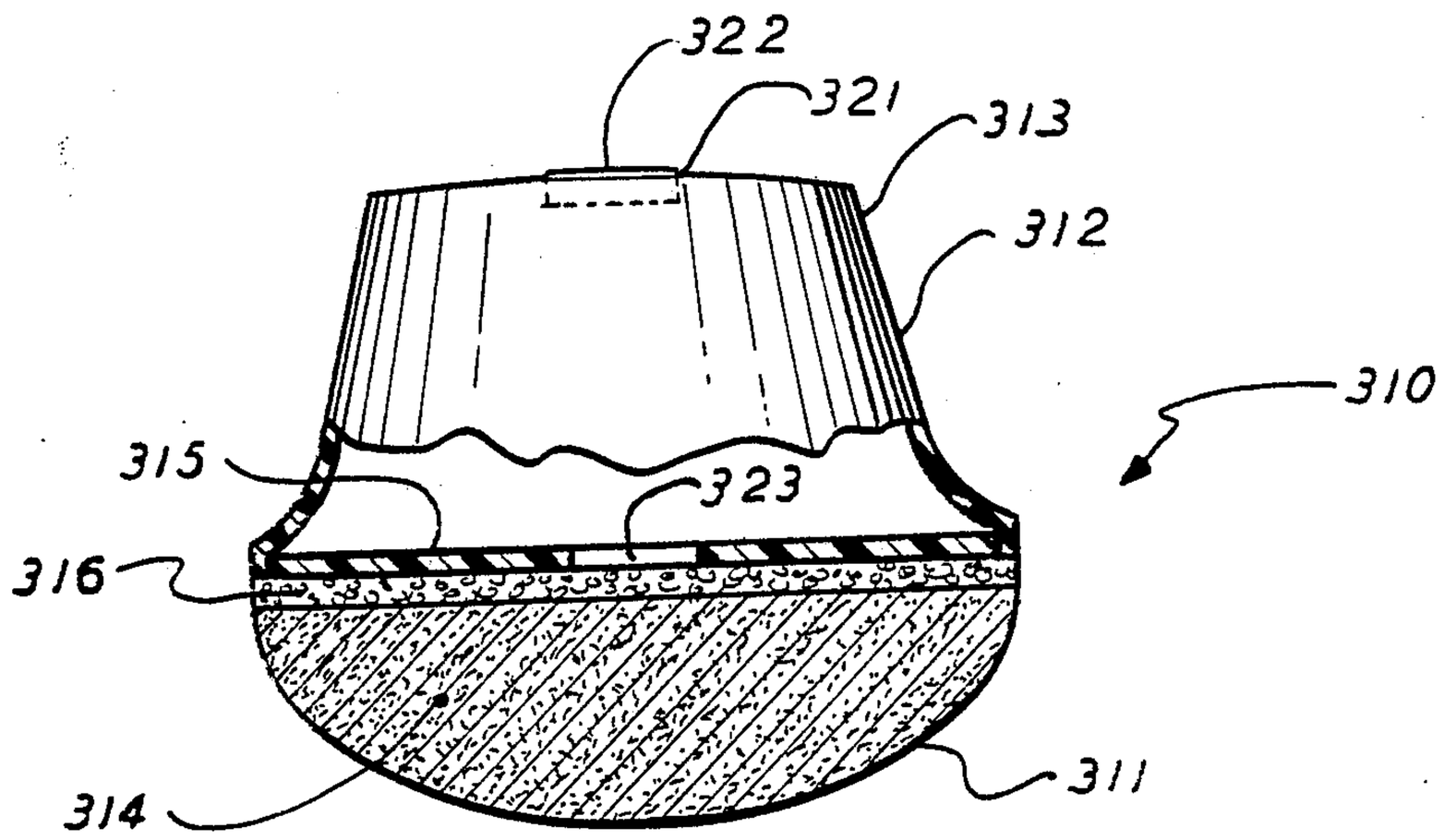


FIG. 1

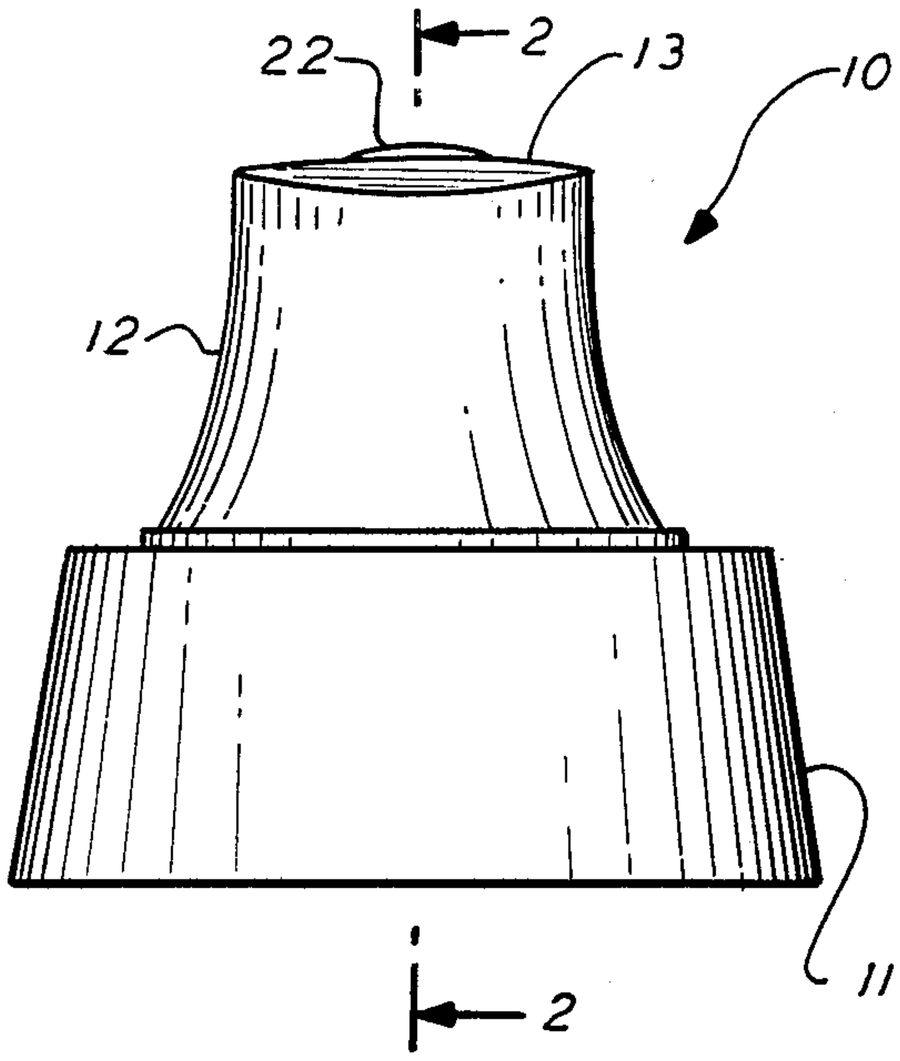


FIG. 2

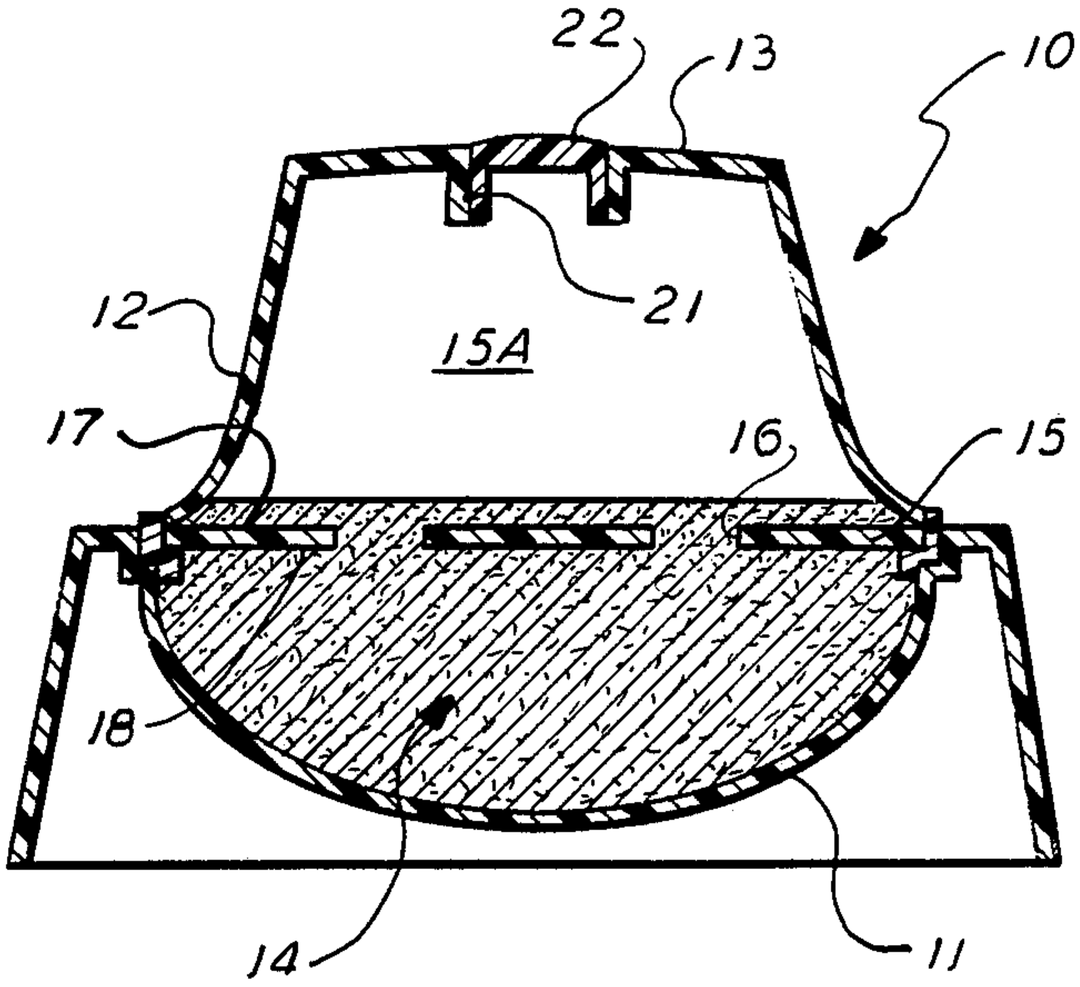


FIG. 3

FIG. 4

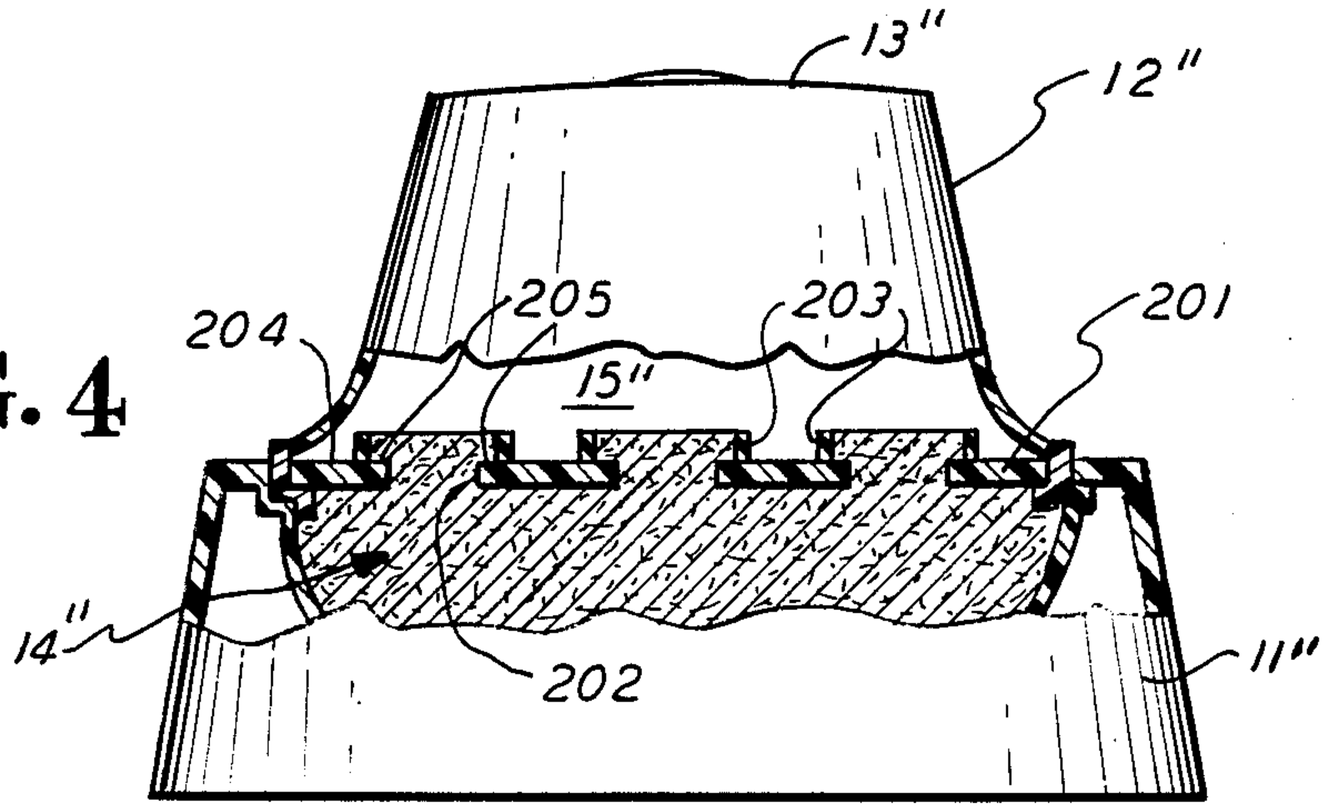
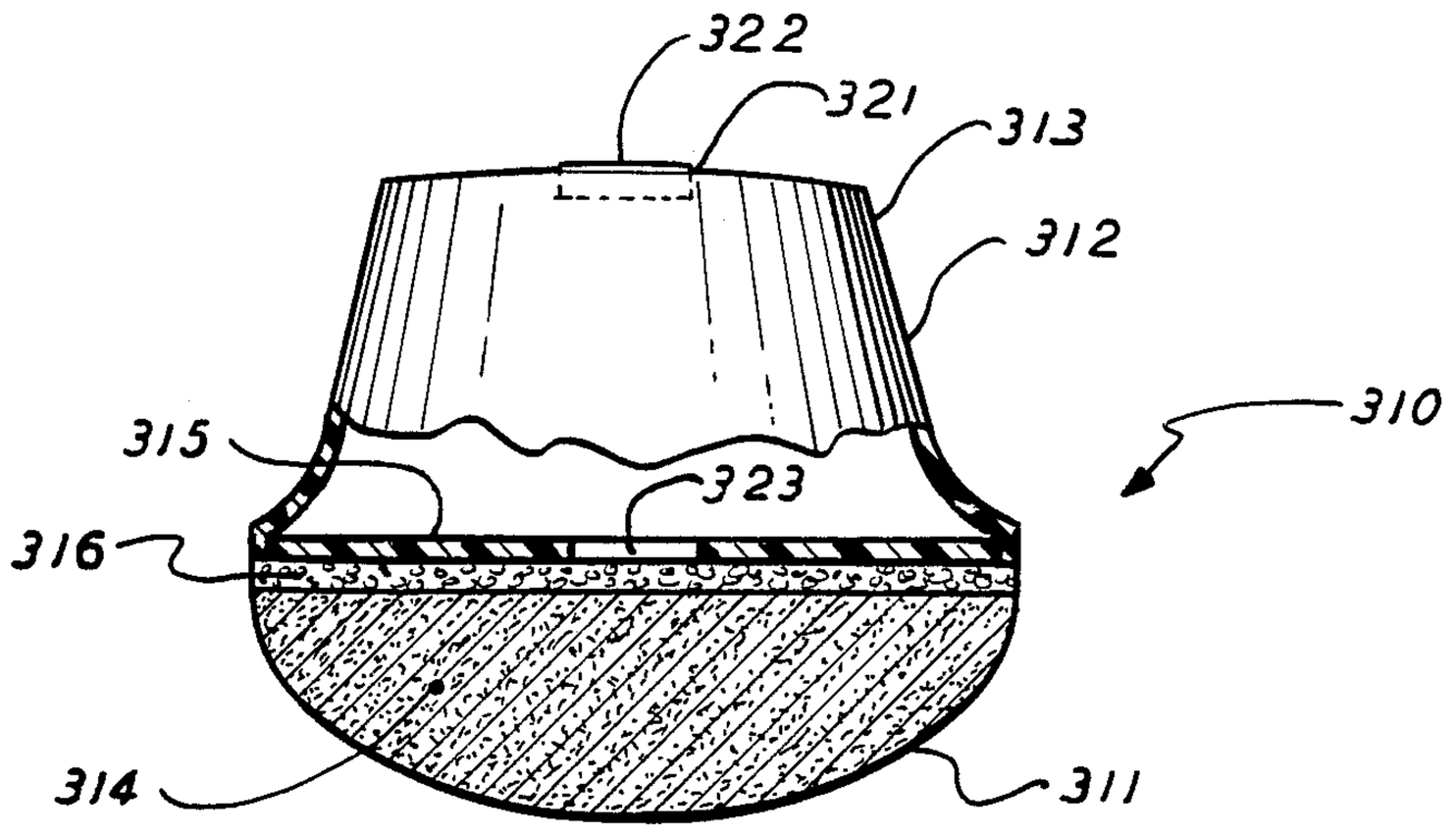


FIG.5



PACKAGE AND APPLICATOR FOR SOLID PRODUCT

This invention relates to a package, and more particularly to a package for a personal care product.

Personal Care products such as deodorant, antiperspirant, and the like have been packaged in various forms. Such forms have included "roll on"; sticks, and aerosols.

Although personal care products have been marketed in such forms, there is a need for improved packaging of personal care products, which are used in a solid form.

In accordance with one aspect of the present invention, there is provided a package for a solid personal care product, in which the package is comprised of a receptacle or container for the solid product and a removable cover to which the solid personal care product is attached, whereby the personal care product is removed from the container with the cover. The cover is provided with means for comfortably holding the cover, such as a handle, whereby the cover functions as a hand held applicator for application of the solid personal care product.

The cover is provided with a support or gripper member, generally in the form of a plate, with the solid personal care product being supported by such support plate. In particular, the support plate has a first surface facing the cover, and a second opposite surface, which faces the container, with the solid product extending outwardly from the second surface.

In one embodiment, the solid personal care product extends outwardly from and covers the second surface of the support plate, and extends through openings in the support plate into the open space between the support plate and cover. The solid product covers at least a portion of the first surface of the support plate.

In another embodiment, which is particularly preferred, the second surface of the support plate has a porous member attached thereto and a portion of the solid product extends into pores of the porous member and is held or gripped by the porous member for removal from the container.

In this manner, the solid personal care product is firmly gripped and supported by the removable cover, whereby the cover may be employed as a hand held applicator for the product.

In accordance with yet another aspect of the present invention, a solid product is attached to a support member through a porous member attached to the support member, with the porous member being impregnated with a portion of the solid product to hold and grip the solid product.

In accordance with an embodiment, the surface of the support plate, including openings or holes, which faces the cover is provided with a plurality of generally vertically extending members in the form of vanes or ribs, which extend from such surface toward the cover, and which function to increase the gripping power of the support plate. Such vertically extending members resist any horizontal shear force which is exerted against the solid product.

In such an embodiment, the surface of the gripper plate or portion thereof which faces the cover holds the product to prevent the product from being pulled outwardly away from the plate, and the vertically extending members resist or prevent movement of the product across the plate by a shearing action. In this manner, the solid product is more securely gripped and held by the cover, thereby facilitating use of the cover as an applicator for the solid product.

In another embodiment, the gripper or support plate is provided wtih vertically extending members in the form of walls which are positioned on the first surface of the plate facing the cover, and which surround the openings in the plate. The surrounding wall is spaced from an opening by a distance to provide a first surface portion between the opening and surrounding wall. In this manner, the solid product is supported by the gripper plate in a manner such that the solid product extends through the openings to a level below the top of the walls surrounding the holes, whereby the solid product covers only the portion of the first surface of the plate between an opening and its surrounding wall. In this manner, the amount of product which is between the cover and plate is reduced, thereby reducing the amount of product which is not available to a user.

The solid personal care product in the package is generally referred to as is a "hot fill" product; i.e., the product is placed into the package in a free flowing or molten form, and is then solidified in the package. As a result, the cover and/or the container may be provided with a fill hole to permit filling of the container with the product in molten form which product is subsequently solidified in the package. The product may be any one of a wide variety of solid personal care items such as a deodorant and/or antiperspirant, a soap, a moisturizer, etc.

In the embodiment which employs a porous member for gripping or holding the solid product, a product portion, in molten form, enters the interstices or pores of the porous member and is solidified therein to form a solid product having a portion within the porous member to provide a firm gripping attachment to the solid product.

The present invention will be further described with reference to the accompanying drawing, wherein:

FIG. **1** is a side elevation view of an embodiment of the present invention;

FIG. **2** is a sectional view taken along line **2—2** of FIG. **1**;

FIG. **3** is a front elevation view, partially in section of another embodiment of the present invention;

FIG. **4** is a front elevation, partially in section, of a further embodiment of the present invention; and

FIG. **5** depicts a particularly preferred embodiment.

Referring now to of the drawings, there is shown a package, generally designated as **10** for a solid personal care product, such as a deodorant.

The package **10** is generally comprised of a container or base receptacle **11**, and a cover **12**, including means for holding the cover **12**, in the form of a handle **13**. A solid personal care product **14** is attached to cover **12**, and is removed from the container **11**, with the cover **12**. The solid product is attached to cover **12** by means of a gripper or support plate **15** attached to the cover, which support plate **15**, in conjunction with the cover **12**, defines an open space **15** A.

The support plate **15** includes a plurality of openings or holes **16** through which the solid product **14** extends, whereby the solid product **14** partially fills the space **15** A between cover **12** and plate **15**, and overlies surface **17** thereof. The solid product **14** extends outwardly from the plate **15** into the container **11**, and covers surface **18** of plate **15**.

In this manner, the cover **12** may be removed from the container **11** by means of handle **13**, and removal of the cover **12** also removes the solid product **14** from containers **11**. The solid product **14**, free of the container, may be applied by using the cover **12** as an applicator.

The cover **12** may be removeably connected to the container **11** by any of a variety of means, such as, for example, a snap fit. Similarly, the gripper plate **15** may be connected to cover **12** by any of a variety of means; for example, the cover and gripper plate may be attached by a snap fit.

The cover **12** is provided with a fill hole **21**, which is closed by a plug **22**. The solid product is introduced through the fill hole **21** in molten form to a level whereby the product extends into the open space **15** A and covers surface **17** of the plate **15**. The product is solidified in the container. The hole **21** is closed by plug **22**.

Alternatively, the container **11** may be provided with a fill hole, and plug for introducing and forming the solid product in package **10**. In this manner, the solid in molten form, is introduced into the package **10** through the container **11**, rather than through the cover **12**.

The level of solid product on plate **15** is sufficient to securely attach the product to the plate **15**, consistent with minimization of such level of product so as to reduce the amount of product which is not available for use.

An alternative embodiment of the package is shown in Figure **3** of the drawings wherein like parts are designated by like prime numerals. The embodiment of FIG. **3** employs an alternative and preferred gripper or support plate for attaching a solid personal care product to the cover of a package.

As shown in FIG. **3**, the gripper plate **101** of the package **10'** has a plurality of openings **102**, as well as generally vertically extending members in the form of vanes or ribs **113**, which extend toward the cover **12'**. The openings **102** may be of the same size or shape or may be of different sizes and shapes. The vanes **113** extend into the solid product above the top surface of the plate **101** and provide additional gripping by resisting or preventing horizontal movement of the solid product; i.e., the vanes **113** resist any shearing force exerted against the solid product. Thus, the surface **104** of the plate **101**, which faces cover **12'**, provides support for the solid product to resist movement of the product outwardly from the plate **101**, and the vanes **113** provide support for the product by resisting product movement across surface **104** of plate **101**.

The vanes **113** can extend in the same or different directions. Similarly, each of the vanes **113** may extend over a portion of the top surface of plate **101** or some or all of the vanes may extend over the entire surface.

In this manner, solid product is firmly attached to cover **12'**, whereby the cover **12'** may be employed as an applicator for applying the solid product.

Another embodiment of the present invention is shown in FIG. **4** of the drawing wherein like parts are designated by like double prime numerals. The embodiment of FIG. **4** includes another form of the gripper plate.

Referring to FIG. **4** of the drawing, the gripper or support plate **201**, includes a plurality of openings **202**, and at least a portion of such openings, and preferably all of the openings, are provided with generally vertically extending walls **203**, which are positioned on surface **204** of plate **201** and surround the openings **202**. The walls **203** are spaced from the openings **202** by a distance whereby a portion **205** of the surface **204** is between the walls **203** and openings **202**.

In this embodiment, the solid product extends through the openings **202** into the space **15''** between the plate **201** and cover **12''** to a height which is below the top of walls **203**. As a result, the solid product covers the portion **205** of surface **204** of plate **201**, and the remaining portion of surface **204** is free of product.

In this embodiment, the portion **205** of plate **201** resists movement of product away from plate **201**, and the walls **203** resist movement of the product across the surface **204** of plate **201**.

As should be apparent, in this embodiment, the amount of product which is between plate **201** and cover **12'** is reduced (only a product **205** of the surface **204** is covered with product), thereby reducing the amount of product which is not available to a user.

In accordance with a particularly preferred embodiment, as hereinafter described with reference to FIG. **5** of the drawings, a solid product is attached to the cover for removal from the container by use of a porous member, and in particular, a foam.

Referring now to FIG. **5** of the drawings, there is shown a package, generally designated as **310** for a solid personal care product, such as a deodorant.

The package **310** is generally comprised of a container or base receptacle **311**, and a cover **312**, including means for holding the cover **312**, in the form of a handle **313**. A solid personal care product **314** is attached to cover **312**, and is removed from the container **311**, with the cover **312**. The solid product is attached to cover **312** by means of a gripper or support plate **315**, attached to the cover **312**.

The support plate **315**, on the surface thereof facing the container **311**, includes a porous member, generally indicated as **316**, with porous member **316** being directly attached to the support plate **315**. A portion of the solid product **314** extends into the pores or interstices of the porous member for holding and gripping of the solid product. The solid product **314** extends outwardly from the plate **315** into the container **311**, and as a result of the attachment to the cover **312**, through the porous member **316** and support plate **315**, the solid product may be removed from the container with the cover **312**.

The cover **312** is provided with a fill hole **321**, which is closed by a plug **322**. The support plate **315** also includes fill holes, such as hole **323**. The solid product is introduced through the fill hole **321** in molten form and flows through the fill hole **323** into the container **311**. The solid product, in molten form, is filled to the level of the support plate **315**, whereby a portion of the solid product, in molten form, fills the pores of the porous member **316**. Upon solidification, a portion of the solid product **314** is dispersed throughout the internal surface area of the porous member **316**, and the internal surface area of the porous member **316** holds and grips the solid product, thereby attaching the solid product to the support plate **315** and cover **312**.

The porous member **316**, is preferably a foam, such as a polyurethane foam, and may be attached to the support plate **315**, which is preferably formed from a plastic material, by fusing the foam to the plastic under heat and pressure or by adhesive bonding, etc.

Although any one of a wide variety of porous materials may be used, as is hereinabove described, the porous

material is preferably an open cell foam, such as polyurethane foam. The porosity of the foam is sufficient to provide an internal surface area for gripping and holding the solid product. In general, the volume of the pores is such as to provide from 10 to 40 pores per inch of material.

In addition, in accordance with a preferred aspect, the thickness of the foam and the porosity thereof is such that the porous material is soft enough that when the solid product gets down to the end thereof, there is presented a flexible impregnated foam for application against the skin, instead of a hard plastic.

Thus, by impregnating the porous material with a portion of the solid care product, and attaching the porous material which is to be impregnated with the solid product to a support plate, which is attached to a cover for the container, it is possible to provide a combination of a solid care product, container and cover, with removal of the cover from the container, also removing the solid care product from the container.

Although the invention has been described with respect to the embodiments of the drawings, it is to be understood that the scope of the invention is not to be limited thereby.

Thus, for example, the embodiment of the drawings may be modified within the spirit and scope of the present invention.

In the embodiment of FIGS. **3** and **4**, the generally vertical extending vanes may be arranged other than as particularly described. Similarly, although the vanes are shown as being vertical, the term "substantially vertical" or "vertically extending" is meant to include vanes which extend at an angle with respect to the gripper plate.

The above modifications and others should be apparent to those skilled in the art from the teachings herein.

The present invention is particularly advantageous in that there is provided a package in which product is removed from the package with the cover, and in which the cover may be employed as an applicator for applying the product.

The product is firmly attached to the cover by use of a gripper plate thereby facilitating both removal of the product from the container, and use of the cover as an applicator.

In accordance with a preferred embodiments, such a result is achieved while reducing the amount of product which is not available to a user.

These and other advantages should be apparent to those skilled in the art of teachings herein.

Numerous modifications and variations of the present invention are possible in light of the above teaching and, therefore, within the scope of the claims, the invention may be practiced otherwise then as particularly described.

What is claimed is:

1. A package for a solid product, comprising:

a container; a removable cover for the container, said cover including a gripping handle; a support member attached to the cover, said support member including a plurality of openings, said support member having a first surface facing the cover and spaced therefrom to define an open space between the support member and cover, said support member having a second surface which faces the container; and a solid personal care product in the container, said solid personal care product extending through said openings into said open space and covering at least a portion of said first surface whereby the solid product is held by said support member and is removable from the container with the cover.

2. The package of claim **1** and further comprising a plurality of vertically extending members attached to the first surface and extending into the solid product to resist movement of the solid product across the support member.

3. The package of claim **1** wherein said first surface includes walls surrounding said openings and spaced therefrom to provide a portion of said first surface between the opening and its surrounding wall, and solid product extending through the openings to a level below the top of the surrounding wall.

4. The package of claim **1** wherein at least one of the container and cover includes a fill hole and plug for hot filling of the solid product.

5. The package of claim **4** wherein the solid product is an anti-perspirant.

6. A package for a solid product, comprising:

a container; a removable cover for the container(;) said cover including a gripping handle; a support member attached to the cover, said support member having a first surface facing the cover and a second surface which faces the container; a porous member attached to said second surface of said support member; and a solid personal care product in the container, said porous member being impregnated with a portion of said solid personal care product to grip and hold the solid personal care product for removal from the container with the cover.

7. The package of claim **6** wherein the porous member is a foam.

8. The package of claim **7** wherein the cover and support member include a fill hole for hot filling of the solid product.

9. The package of claim **7** wherein the container includes the solid personal care product at a level up to said support member.

10. The package of claim **9** wherein the solid is an antiperspirant.

11. An article, comprising: a support member; a porous member attached to one surface of said support member; and a solid product attached to said support member, said solid product being attached to said support member by said porous member being impregnated with a portion of said solid product.

12. The article of claim **11** wherein said porous member is a foam.

13. The article of claim **12** wherein said foam has a porosity of from 10 to 40 pores per inch.

14. The package of claim **6** wherein the porous member has a porosity of from 10 to 40 pores per inch.

* * * * *